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To the Commission.

Attached please find an article I am working on for publication in the Spring 2001 edition of the Suffolk University Journal of High Technology. The paper addresses the private causes of action SDARS operators may face if continued interference results in the inoperability of wireless devices. Additionally, the article address several regulatory remedies available given this situation.

I hope you find the writing interesting and informative. Please contact me if you have any comments or questions either via electronic mail at erskined@rcn.com or telephone at (617)-695-0054. Thank you for the opportunity to present the Commission with this commentary.

Regards,
Daniel H. Erskine

Satellite Digital Radio Searching for Novel Theories of Action

Daniel Erskine

The law "has become a conscious reaction upon itself of organized society knowingly seeking to determine its own destines".[1] Law intrudes upon new technology to regulate its operation and determine its allowable societal impact. This article focuses primarily upon the legal effect of Satellite Digital Audio Radio (SDAR), a novel technology, upon existing wireless networks and other signal receiving devices licensed by the Federal Communications Commission. In an effort to logically discuss the subject, the paper is divided in a variety of sections each covering portions of the argument.

Section I explains SDAR and traditional FM/AM radio technologically. Section II describes the regulatory framework governing SDAR and radio broadcast generally. Section III presents the legal issue discussed in this article. Section IV looks at tort law for possible actionable claims, while Section V explores FCC regulatory remedies. Section V concludes the paper.

Section I: SDAR Technology and Terrestrial Radio

Satellite radio consists of one primary station that produces the initial emission. That emission or signal is relayed to a set of satellites orbiting the earth. The satellites relate the signal directly to the receiving device. The signal emitted is digital, which means a series of binary bits or a series of ones and zeros constitutes the signal.

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[1] Oliver Wendell Holmes. Privilege, Malice, and Intent. 8 Harv. L. Rev. 1, 9 (1894)

SDAR operates on the S-Band frequency at 2310 to 2360 Megahertz (MHz).[2] By comparison conventional FM radio or frequency modulation operates at 88 MHz to 108 MHz, and AM or amplitude modulation radio operates at 535 kilohertz (KHz) to 1605 KHz.[3] FM and AM radio are divided into several channels that comprise certain frequencies within their allotted spectrums. FM radio constitutes 100 channels each of 200 KHz.[4] AM radio has 107 channels divided at intervals of 540 KHz.[5]

SDAR is divided into two segments each of 25MHz.[6] Within these 25MHz 12.5MHz may be used as a channel to produce, through spatial diversity, 33 channels of CD quality sound.[7] Hence the two segments can produce 132 channels at present, but with advances in the technology each 12.5 MHz segment could produce 100 channels each or a total of 400 channels between the two 25MHz segments.[8]

Unlike FM and AM radio, the FCC does not license the individual channels within the 12.5MHz frequencies. The FCC only licenses each of the 25MHz segments. These 25MHz segments represent a tradition channel or frequency classification made by the FCC, and the Commission permits only the two licensees to operate at the S-Band frequency. In contrast, the FCC allows FM

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[2] See In the Matter of Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in 2310-2360 MHZ Frequency Band, 12 F.C.C. 5754 (1997) herein 12 F.C.C. 5754 (1997).

[3] Ibid.

[4] FCC information bulletin (Nov. 1977). There also exists a low power FM radio, which is a broadcast service that permits the licensing of 50-100 watt FM radio stations within a service radius of up to 3.5 miles and 1-10 watt FM radio stations within a service radius of 1 to 2 miles.

[5] Ibid.

[6] 12 F.C.C. 5754 (1997).

and AM stations to operate upon the same channel or frequency at differing powers and times.[9] The reason for diversity in licensing between SDAR and traditional FM and AM radio is a result of technological differences.[10] A brief synopsis of these variations will set the stage for a discussion of the legal issues presented in this article.

SDAR, as previously stated, operates through the use of a central staging facility and an orbital satellite array.[11] The main operational center generates and processes the signal here on earth. This means any upgrade in the technology occurs on the ground. Once the signal is emitted from the operational center it is sent directly to the satellite array. The satellites operate in an orbital pattern that both relays the signal back to earth and protects against interference or diminution in the signal.[12] Once reflected back to earth a device, like our radio in our automobiles, receives the signal.

FM and AM radio operate by use of a carrier wave upon which audio waves are impressed.[13] An earth bound antenna emits the signal to a reception device. Because the power of the signal affects distance it may be heard, many

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[7] Ibid.
[8] Ibid.
[9] Upon these channels 4,727 AM stations operates, 6,051 commercial FM stations, and 2, 234 FM educational stations. See FCC Broadcast Totals for Fiscal Year 2001.
[10] All radio transmissions operate on the electro-magnetic spectrum, which comprises the entire range of frequencies or wavelengths of electro-magnetic radiation. The spectrum begins with long wavelengths or low frequencies and ends with short wavelengths or high frequencies. Radio waves are present at both ends of the spectrum. Each of these electro-magnetic wave travels at the speed of light or 186,000 miles per second.
[11] See generally Sirius Satellite Radio Inc. Form 10-K for 2001.
[12] Adjacent devices operating near SDAR in the electro-magnetic spectrum are the U.S. Government and U.S. commercial mobile aeronautical telemetry (1452-1492 MHz), Canadian terrestrial stations (2310-2320 MHz), Canadian mobile aeronautical telemetry (2350-2360 MHz), flight test stations (1435-1525 and 2360-2390MHz), Deep space research (2290-2300 MHz), Radio research for extraterrestrial life (1400-1727 MHz). See 47 C.F.R. §2.106 (2001).
[13] See FCC Information Bulletin (Nov. 1997).

stations can operate on the same frequency at different powers across the country. AM radio does not rely on the height of the broadcasting antenna because the signal emitted produces either ground waves or sky waves. Ground waves travel across the surface of the earth. Sky waves shoot into the sky and are reflected back to the earth by electrical particles in the atmosphere. FM radio, on the other hand, is dependant on the height on the antenna as the line of sight from antenna to receiver determines the quality of the reception.

Similarly SDAR, being a satellite signal, requires a line of sight in the same way that FM radio does. The benefit of satellites is their ability to relay a signal almost any where in the country. A problem does arise in large cities like New York or Boston where tall buildings may significantly block the signal, which affects reception. As a result, SDAR utilizes terrestrial repeaters to relay the signal around these buildings. Terrestrial repeaters are basically antenna arrays that receive the signal from the satellite and redirect it toward the receiver.

SECTION II: The Regulatory Scheme

Radio in the American context has been subject to regulation since 1910.[14] Radio was first used as a safety measure in ships and a communicative device for the military. In the early years of commercial radio broadcasting the Secretary of Commerce and Labor was empowered by Congress to issue licenses to any individual wanting to broadcast.[15] The Radio Act of 1912 provided the statutory basis for the Secretary's authority.[16] Yet, with the rapid

[14] Wireless Ship Act (36 Stat. 629) (repealed 1912).
[15] See Radio Act of 1912 (37 Stat. 302) (repealed 1927); Laurence Schmeckebier, The Federal Radio Commission 21 (1932).
[16] See 37 Stat. 302 (repealed 1927).

growth of radio and the limited amount of frequencies available many licensees interfered with each other's frequencies.[17] The Secretary sought to remedy this situation, but found he lacked the authority to regulate radio in this manner.[18]

By the 1920's radio became a commercial mechanism. The 1927 Radio Act created the basis for the present regulatory scheme under the Federal Radio Commission.[19] The object of this commission was to bring order to the chaos of rampid interference.[20] The 1927 act empowered the commission to classify stations, prescribe the nature of service to be rendered, assign frequencies to stations or classes of stations, determine the power used and time allocated to each station for operation, catalog the location of stations, regulate the apparatus used in the production of radio signals, establish regulations to prevent signal interference, and delineate zones within the nation for stations to serve.[21] Most importantly the FRC required licensees to sign a waiver of any propriety rights or claims upon the particular frequency assigned to the station.[22]

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[17] See NBC v. U.S., 319 U.S. 190 (1934) (describing situation leading to 1927 Act). See also Stephen Davis, The Law of Radio Communications 32-53 (1926).

[18] U.S. v. Zenith Radio Corp., 12 F.2d 616 (N.D.Ill. 1926); 35 Op. Att. Gen. 126-132 (1926). Cf. Hoover v. Intercity Radio Co. 268 F. 1003 (D.C. Cir. 1923) (apparently holding Secretary of Commerce had authority to place constraints on licenses).

[19] 44 Stat. 1162 (repealed 1934).

[20] See generally Harvey Levin, The Invisible Resource: Use and Regulation of the Radio Spectrum (1971).

[21] 44 Stat. 1162 (repealed 1934). By 1923 nation had been divided into five zones as required by 1912 Radio Act. The 1927 Act maintained the zones, and the 1934 Communications Act excluded some territories and possessions from the zones. In 1936 section 302 of the Communications Act abolished the zones. 49 Stat. 1475 (1936).

[22] The provision of the 1927 was challenged on constitutional grounds. A district court proffered a list of questions to the United States Supreme Court, and the Court refused to answer those questions including whether the waiver required by the Act violated the 5th Amendment. White v. Johnson, 282 U.S. 367 (1931). See also American Bond and Mortgage Co. v. U.S., 52 F.2d 318 (7th Cir. 1931) cert. denied 285 U.S. 385 (1932) (exact same constitutional challenge).

The 1934 Communications Act consolidated the regulation of radio with that of telephone and telegraph services.[23] The FRC transformed in the FCC to cover the new grant of authority by Congress.[24] The objectives for the regulation of radio remained the same as the 1927 Act.[25] The FCC issues licenses for particular frequencies for the operation of radio.[26] In 1934 licenses were granted for a period of only one year. By 1980 Congress extended the license period to three years, and in 1996 through the Telecommunications Act increased the term of license to eight years.[27] The FCC has the sole authority to grant, revoke, and reissue licenses for radio operation.[28]

For a new station the process of obtaining a license begins with seeking a construction permit.[29] After obtaining a permit the station must conform to strict technical guidelines and complete construction within a specified period of time.[30] Failure in either of these requirements results in nonissuance of a license. If the station conforms to the permit, then an application for a license may be made.

Initially a prospective licensee must possess serval qualifications. The most important are that the applicant be a citizen of the United States or be a corporation with less than 25 % foreign ownership, have sufficient funds to build

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[23] 47 U.S.C. §151 et seq. (2001). See generally Paglin, A Legislative History of the Communications Act of 1934 1 (1989); H.R. Rep. No. 1918, 73d Cong., 2d sess. (1934) (Conference committee report and detailed comparison of 1934 Act with previous Acts).
[24] The powers of the FCC are enumerated in 47 U.S.C. §303. Most important are the allocation of frequencies, the power to grant, renew and revoke licenses, create regulations for the operation of radio transmissions, and discover new types of radio technology.
[25] On the issue of frequency allocation and license see generally Coarse, The Federal Communications Commission, 2 J.L. & Econ. 1 (1959); Johnson, Towers of Babel: The Chaos in Radio Spectrum Utilization and Allocation, 34 Law & Contemp.Probs. 505 (1969).
[26] 47 U.S.C. §309 (2001).
[27] See Don Pember, Mass Media Law 586 (2001). See also 110 Stat. 56 (1996).
[28] 47 U.S.C. §309 (2001).
[29] Ibid.
[30] Among these is the power or wattage the station will operate on.

and operate the station for at least three months without earning any revenue, be able to acquire or employ individuals with the technical knowledge to operate the station, and be honest and open in dealing with the Commission as well as possess good character.[31] The FCC, determining all the requirements are met, issues a license to the station. The FCC retains the authority to waive any of these conditions if it determines such a waiver is in the public interest, convenience, or necessity.[32]

In 1997 an auction for two SDAR licenses occurred.[33] There were six bidders. Two were successful in obtaining a license.[34] One belongs to Sirius Satellite Radio, Inc. and the other to XM Radio, Inc., both of who have constructed operational centers and satellite arrays.[35] The successful bidders expended $83 million to obtain the Sirius license and $89 million for the XM Radio license.[36] Although both companies have FCC licenses only Sirius Radio owes patents on the type of satellite configuration and certain reception enhancing devices.[37]

Once the licenses were obtained, the FCC, in May of 1997, issued its rule-making order establishing the regulations governing SDAR.[38] In the order the

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[31] See 47 U.S.C. §308, 309, 310 (2001).
[32] Ibid.
[33] The usual process of obtaining a license is to competitively bid. Each of the bidder's has already been determined by the Commission to meet the qualifications discussed in the pervious paragraph. The FCC waived the foreign ownership restriction for SDAR licensees.
[34] 12 F.C.C. 5754 (1997).
[35] In the matter of American Mobile Radio Operation, 15 FCC 8829 (1997).
[36] Ibid.
[37] U.S. Patent No. 6,223, 019 (issued April 24, 2001); U.S. Patent No. 6,023,616 (issued Fed. 8, 2000).
[38] 12 F.C.C. 5754 (1997).

FCC pointed to a number of compelling reasons for the operation of SDAR.[39] Among the foremost was the ability of SDAR to reach portions of the United States currently receiving little or no radio broadcasts.[40] The variety of broadcast proposed by the two licensees would fill the need of certain niche programming, better accommodating minority interests.[41]

Equally important was the capability of SDAR to broadcast continuously across the entire continental United States.[42] An individual driving an automobile from New York to Los Angles could listen to the same station without interruption or interference.[43] Lastly the ability of instantaneous communication throughout the country through this system appealed to the FCC whose governing statute permits the President of the United States in time of war to appropriate radio broadcasts for national defensive purposes.[44]

SECTION III: THE PROBLEM PRESENTED

The anywhere anytime listening convenience of SDAR has one considerable drawback—interference. The terrestrial repeaters employed by SDAR in the major metropolitan areas cause interference with other wireless

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[39] See 12 F.C.C. 5754 et seq. (1997).
[40] Ibid. 772, 102 persons (0.3% of U.S. population) are covered by no FM stations, 2.4 million (1.0% of the U.S. population) are covered by one or more FM stations, and 22 million persons (8.9% of the U.S. population) are covered by five or fewer FM stations. 12 F.C.C. 5760 (1997).
[41] Also, the majority of SDAR channels will be completely commercial free and include broadcasts from CNN, MTV, BBC World Radio, and numerous others. Weather Channel updates will also be played on a number of the stations. The quality of the sound will be digital or CD quality far superior to terrestrial radio.
[42] See 12 F.C.C. 5754 (1997).
[43] The licensee major target consumer is the driving public. Both license have contracts with major corporations including General Motors, BMW, Mercedes-Benz, Kenwood Audio, and Sony. The two licensees agreed and developed a receiver so both company's programming can be broadcast to the same device.
[44] See 47 C.F.R. §2.406, 2.407 (2001) (authorizing free service during national emergency and empowering military through FCC to use licensee stations). See also 47 U.S.C. 154, 302(a), 303, 336 (2001).

services. Most notably wireless cellular services such as cellular telephones may be subject to blanket interference.[45] Such interference results when the receiver is near a high powered transmitter, which overloads the components of the receiver preventing reception of the desired signal. The FCC in response to these concerns issued a special temporary authority order to both SDAR licensees to coordinate with the affected services and shut down any repeater causing interference immediately.[46]

The FCC on its own motion modified the special temporary authority orders granted to the licensees to operate terrestrial repeaters.[47] Shortly after the Commission filed a public notice to solicit commentary on proposed rules for the operation of terrestrial repeaters.[48] The outcome of this rule making will affect the future of SDAR in those areas where repeaters are necessary.

The legal issue arises as to the liability faced by SDAR operators in interfering with other licensed entities. An exploration of what, if any, causes of action may be had against SDAR licensees consumes the rest of the article.

SECTION IV: TORT THEORIES OF LIABILITY

The purpose of tort law is to remedy those physical and economic injuries caused by another. Within traditional tort law concepts resides the idea of a remedy for intentional interference with either contract or prospective contractual relations. Two separate normative torts, intentional interference with contractual

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[45] See Emergency Motion for Stay and Petition for Reconsideration of Special Temporary Authority filed September 28, 2001 by the Wireless Communications Association International, Inc. See also In Matter of XM Radio, Inc., F.C.C. DA 01-2384 (adopted 10/15/01).

[46] See Order In Matter of XM Radio, Inc, F.C.C. DA 01-2384 (adopted 9/17/01); Order In Matter of Sirius Satellite Radio, Inc., F.C.C. DA 01-2383 (adopted 9/17/01)

[47] See Order In Matter of XM Radio, Inc, F.C.C. DA 01-2384 (adopted 10/15/01); Order In Matter of Sirius Satellite Radio, Inc., F.C.C. DA 01-2383 (adopted 10/15/01).

relations and intentional interference with economic interests, prove a cause of action to cure such financial harms.

Intentional interference with contractual relations has a long history in the realm of tort law.[49] The seminal case defining the modern conception of the tort occurred in 1853 in England's Queen's Bench Division.[50] There an opera singer, Miss Johnanna Wagner, contracted with a certain theatre to sing exclusively for the theater for a definite period of time.[51] The defendant, knowledgeable about the premises of the theater and "maliciously intending to injure the plaintiff", enticed Miss Wagner to refuse to perform her contract.[52] The court held the malicious enticement to breach her contract actionable in tort.

Some time passed before the tort gained acceptance in the United States, but in 1923 at least the New York courts recognized a cause of action for such malevolent conduct resulting in injury.[53] Central to the early life of the tort was the existence of a definite contract or an interest in property or right in rem good against the world.[54] The requirement of a contract was not strict.[55] Any contract although unenforceable at law would suffice to establish the legal duty the breaching party was under.[56]

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[48] Notice for Further Comment F.C.C. DA 01-2570 (adopted 11/1/01).
[49] Tortious acts resulting in economic damage, as a basis for liability has existed since Roman law. See William Prosser, Law of Torts, 1st ed., 975-980 (1941) hereinafter Prosser, Law of Torts. 509 (1887).
[50] Lumley v. Gye, 118 Eng. Rep. 749 (1859). See also Restatement (Second) of Torts §766, cmt. b (1979).
[51] Ibid.
[52] Ibid. See also Restatement (Second) of Torts §766, cmt. b (1979).
[53] Campbell v. Gates, 141 N.E. 914 (N.Y. 1923)
[54] Raymond v. Yarrington, 73 S.W. 800 (Tex. 1903). Accord S.C. Posner Co. v. Jackson, 119 N.E. 573 (N.Y. 1918).
[55] Prosser, Law of Torts, 980.
[56] Ibid. See also Jackson v. Stanfield, 36 N.E. 345 (Ind. 1894) (no requirement of contract enforceable under statute of frauds); Salter v. Howard, 43 Ga. 601 (1871) (formal defects in

Important in the proof of the tort is that the defendant caused the nonperformance of the contract.[57] A fitting example is the making of performance more expense and burdensome to the plaintiff.[58] Essential to the tort is intentional interference causing a particular harmful result.[59] The cases defining this tort have refused to remedy negligent interference causing purely economic harm.[60]

Firstly, an intention to cause interference with an existing contractual relationship must be coupled with a determination that the means employed were improper or made improper by the surrounding circumstances. There exists, however, authority for allowing recovery when the defendant pursues his own ends cognizant his conduct will bring about the nonperformance of the plaintiff's contract, but lacks any intent or primary desire to interfere.[61] Whether intermeddling causing incidental interference rises to the level of tortious conduct is doubtful.[62]

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contract do not prevent recovery); Rich v. N.Y. Centr. & H.R.R. Co., 87 N.Y. 382 (1882) (contract lacking consideration still basis for tort action); Moran v. Dunphy, 59 N.E. 125 (Mass. 1901) (Holmes, J.)(contract lacking in mutuality actionable in tort); Aalfo Co. v. Kinney, 144 A. 715 (N.J. 1929)(uncertainty of terms no bar for tort action on interference with contract).

[57] Restatement (Second) of Torts §766 (1979)

[58] See McNary v. Chamberlain, 34 Conn. 384 (1867) (deliberate damage to highway plaintiff under contract to repair); Cue v. Breland, 29 So. 850 (1901).

[59] See Harper, Interference with Contractual Relations, 47 Nw.U.L.Rev. 873 (1953); Green, Relational Interests, 29 Ill. L. Rev. 1041, 1042 (1935); Carpenter, Interference with Contractual Relations, 41 Harv.L.Rev. 728 (1928).

[60] Restatement (Second) of Torts §766C (1979). See also Note, Negligent Interference with Contract, 63 Va. L. Rev. 813 (1977).

[61] Stevens v. Siegel, 239 N.Y.S.2d 827 (N.Y. 1963); Bentley v. Teton, 153 N.E.2d 495 (Ill. App. 1958); Gregory v. Dealer's Equip. Co., 300 S.W. 563 (Tenn. 1958); Lancaster v. Hamburger, 71 N.E. 289 (Ohio 1904).

[62] But officious meddling for the purpose to interfere with a contract is actionable in tort. Sidney Blumenthal & Co. v. U.S., 30 F.2d 247 (2d Cir. 1929).

Secondly, genuine harm must be established in addition to the defendant's actual knowledge of injured party's affected interests.[63] Satisfying the knowledge requirement in older cases occurred when the defendant possessed at least enough factual information for a reasonable man to know of the existence of the plaintiff's interests.[64]

Three standards exist to assess this particular tort. The first is the malice standard applied in the early existence of the tort.[65] Soon this evaluation lost prominence because of its stringent requirement of actual malice. A new standard arose assigning liability for any intentional interference resulting in ascertained harm.[66] Here the defendant bore the burden of arguing justification for the interference, while the plaintiff proved the existence of interference and damages.[67] Ambiguous as to the definition of justified inference, this standard gave rise to the Restatement formulation.[68] The Restatement defines the tort as when one intentionally and improperly interferes with the performance of a

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[63] Restatement (Second) of Torts §766 (1979). Without intent there is no liability. See Snowden v. Snowden, 75 N.W.2d 795 (Minn. 1956); Augustine v. Trucco, 268 P.2d. 780 (Cal. App. 1954); Kenworthy v. Kleinberg, 47 P.2d. 825 (Wash. 1935);Thompson v. Sparkman, 55 S.W.2d. 871 (Tex. Civ. App. 1933); Kerr v. Du Pree, 132 S.E. 393 (Ga. App. 1926).

[64] See Twitchell v. Nelson, 148 N.W. 451 (1914); Twitchell v. Glenwood-Inglewood Co., 155 NW 621 (1915).

[65] Pure malicious interference required for liability. Bowen v. Hall, 50 L.J.Q.B. 305 (1881); Temperton v. Russell, 62 L.J.Q.B. 412 (1893).

[66] Ill will or spite unnecessary not required for liability. Aikens v. Wisconsin, 195 U.S. 194 (1904) (Holmes, J.); Minico v. Craig, 94 N.E. 317 (Mass. 1911); Connors v. Connolly, 86 A. 600 (Conn. 1913); Berry v. Donavan, 74 N.E. 603 (Mass. 1905). See also Fridman, Malice in Law of Torts, 21 Mod. L. Rev. 484 (1958); Jaffin, Theorems in Anglo-American Labor Law, 31 Col. L. Rev. 1104, 1123 (1931); Stoner, The Influence of Social and Ecomonic Ideals in the Law of Malicious Torts, 8 Mich.L.Rev. 468 (1910).

[67] See Felsen v. Sol Café Manufacturing Corp., 249 N.E.2d 459 (N.Y. 1969) (discussing where plaintiff established tortious interference defendant's burden of proving justification).

[68] See Top Service Body Shop, Inc. v. Allstate Ins. Co., 582 P.2d 1365 (Ore. 1978) (Linde, J.) (criticizing difficulty in determining justification). See also Dan Dobbs, Tortious Interference with Contractual Relations, 34 Ark. L. Rev. 335, 345-346 (1980) (arguing lack of definitable justification unjust).

contract between another and a third person by inducing or otherwise causing the third person not to perform the contract. [69]

The Restatement subjects the interfering party to liability if and only if the means or purpose of the interference was improper.[70] Whether interference is improper depends on a number of considerations.[71] The factors the Restatement suggests are: the nature of the defendant's conduct, the defendant's motive, the interests of the party interfered with, the advancement of the interests of the defendant, the social interests in protecting the freedom of action of the defendant and the contractual interests of the plaintiff, the proximity of the defendant's conduct to the interference, and the relations between the parties.[72]

The hurdle comes in whether the defendant was privileged in his interference.[73] The defendant possessing a valid justification for intentional interference will be absolved of his conduct and no action in tort will lie.[74] A disinterested motive laudable in character justifies interference by the defendant.[75] The measure of privilege is reasonable and proper means.[76] The

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[69] Restatement (Second) of Torts §766, 767 cmts. b and k. (1979).
[70] Ibid.
[71] Additionally inducement to breach the contract is accomplished by a variety of means, but may not be required to recover if interfere unjustified and resulting harm. See International Union United Auto., Aircraft and Agricultural Implement Workers of America v. Russell, 356 U.S. 634 (1958) (inducement to breach by defendant's threats); Sumwalt Ice & Coal Co. v. Knickerbocker Ice Co., 80 A. 48 (Md. 1911) (inducement by economic threats where refusal to deal unless contract broken); Lichter v. Fulcher, 125 S.W.2d 501 (Tenn. App. 1938) (persuasion inducing breach).
[72] Restatement (Second) of Torts §767 (1979).
[73] A plaintiff must plead lack of justification. Swager v. Couri, 395 N.E.2d 921 (Ill. 1979) (failure in pleading lack of justification therefore judgment for defendant).
[74] Yet inference may be determined improper under the circumstances when defendant knew his conduct interferes with plaintiff's contract, despite peaceable persuasive means. See, e.g., Smith v. Ford Motor Co., 221 S.E.2d 282 (N.C. 1976).
[75] Protection of the public interest, one's own economic interest, and purely competitive interests are all justified. See, e.g., Legris v. Marcotte, 129 Ill. App. 67 (1906) (prevention of disease in public interest interference justified); Ford v. C.E. Wilson & Co., 129 F.2d. 614 (2d Cir 1942) (retrieving security fro debtor justified); Federal Auto Body Works, Inc. v. Aetna Casualty & Surety

determination of whether the defendant's conduct meets this standard follows a similar evaluation as the use of reasonable force in defense of one's property.[77]

Applying this tort theory of interference resulting in nonperformance of a contract to the SDAR situation yields the following results. Under this tort wireless providers, like AT&T Wireless, bring suit against either one or both of the SDAR operators. First, the providers must prove interference. The interference with a contract occurs when the blanket technological interference causes the wireless subscribers to withhold contractually mandated monthly payments for cellular service. These subscribers fail to pay the contract price per month for the use of the service because the technological interference renders cellular phones inoperable. In a sense the SDAR operator have induced a breach of the contract by their conduct.[78]

The wireless providers must then establish the interference was improper by its means or purpose. Looking at the previously stated Restatement factors, the conduct of SDAR operators was the use of repeaters rendering cellular devices ineffective.[79] The motive of the operators was to provide digital audio service to its subscribers through a satellite network, and by such service profit. The interests of the wireless providers inferred with are to operate and sell a cellular phone network for profit, while the interests of SDAR operators is similar

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Co., 447 A.2d 377 (R.I. 1982) (insurer's interest in lower cost car repair justified interference with prospective business of repair shop).

[76] See Restatement (Second) of Torts §767 (1979)

[77] See Prosser, Law of Torts, 996-1001.

[78] Inducement by the defendant's intentional act or even reasonable foreseeable risk of inducing breach of contract is clearly within the limits of proximate cause. Tubular Rivet & Stud Co. v. Exeter Boot & Shoe Co., 159 F. 824 (1st Cir. 1908); Heath v. American Book Co., 97 F. 533 (D.Wa. 1899).

[79] See supra 13.

to earn profit from delivery of CD quality sound to personal receivers and increase the number of subscribers. The social interests in protecting the wireless service providers is the ability of private and business individuals to place and receive calls in various locations, and allow more people at a low cost to use a phone. On the other side SDAR permits continuous commercial free broadcast supplying minority segments of the population radio programming and the opportunity to reach the entire country with radio service. The proximity of SDAR operators to the interference is direct.[80] They cause the technological situation that induces the nonperformance of the wireless customer's contract. Finally the parties are licensees operating services on particular frequencies and under specific regulations promulgated by the FCC.

The interference may be intentional, but whether the interference is improper is questionable. Operation of interfering repeaters violates the FCC special temporary authority order expressly dictating the shut down of any repeater causing such interference. The interference, thus, is illegal and therefore declared improper. Although, the wording of the order tends to indicate a burden of notice is placed upon the affected providers.

If no notice were given then SDAR continued operations might not be deemed illegal and thus improper. In this case SDAR operators could argue their action justified in good faith that they acted to further a legally protected interest. This bona fide defence vilifies the wireless providers action.[81] Proper notice

[80] The defendant must be shown to be the cause of both the interference and the loss. Lingard v. Kiraly, 110 So.2d 715 (Fla. App. 1959); Wahl v. Strous, 25 A. 2d 820 (Pa. 1942).
[81] See Restatement (Second) of Torts §773 (1979).

given and continued repeater operation transforms SDAR operators' action improper intentional interference.

Intention must be fused with SDAR operators' knowledge of the wireless providers interests. Lengthy objections filed with the FCC to the alteration of SDAR licenses in conjunction with comments upon the grant of special authority to operate the repeaters supply SDAR operator with an awareness of wireless providers interests. With knowledge, intention, and improper means and purpose the SDAR operators may only plead a bona fide defense.[82]

But the defense should fail under scrutiny because the determination of improper or unlawful means creates an actionable liability. Barring the proper notice and noncompliance, this defense could be asserted to protect SDAR operators. In this situation SDAR operators commit no unlawful act.

Nonetheless, concluding SDAR operations have caused an improper interference the plaintiff must elect to either pursue her cause in equity or at law. Equitable injunctive relief results in an order preventing SDAR operators from using the interfering repeaters.[83] Proceeding at law forces the plaintiff to prove actual damages or a basis for restitution to sustain the action. Damages on the contract would be limited, if the loss were substantial as it would be here, to

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[82] The act of interference by SDAR operators may result from a mixed motive. After adoption of the FCC rule-making tolerable interference by be permitted. The action of the operators would then be privileged or justified, yet the technological interference could remain. In this case the motive of the SDAR operators may be mixed and the predominate motivation must be tested to gauge whether the contractual interference is improper. The test of dominant motivation is enunciated in Alyeska Pipeline Service Co. v. Aurora Air Service, 604 P.2d 1090 (1979).

[83] Ordinary grounds for equitable relief must be shown in conjunction with an affirmative showing there is a threat of future repeated harm. Adler, Barish, Daniels, Levin and Creskoff v. Epstein, 393 A. 2d 1175 (Pa. 1978) appeal dismissed cert. denied 442 U.S. 907 (1979). See also Azar v. Lehigh Crop., 364 So.2d 860 (Fla. App. 1978).

those contemplated by the parties at the formation of the contract.[84] Under this remedy the wireless providers present the amount of lost under each contract incurred by the interference. The problem results in proving each customer's reason for nonpayment. There must exist probable evidence that corroborates the amount of contractual damages sought with the actual or most likely number of customers who discontinued payment.

A court at law could also impose tort damages upon the SDAR operators limited to those damages proximately caused by their interference.[85] Or the court may assess intentional tortious damages including unforeseen expenses and punitive damages.[86] Punitive damages are assessed by analogy to intentional harm to an individual or property.[87]

A separate, but related tort, is interference with the execution of the party's own contract.[88] The tort relates to the situation where the interference prevents one of the parties to the contract from performance because the execution is made more expensive or burdensome.[89] The actual practical difference between these two torts appears quite technical. Under this façade lies a cause of action for a plaintiff who could perform, has not forfeited performance, but faces an economic hardship in completing the contract. The cost of performance must be

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[84] See, e.g., McNutt Oil & Refining Co. v. D'Ascoli , 281 P.2d 966 (Ariz. 1955); R and W Hat Shp v. Sculley, 118 A. 55 (Conn. 1922); Mahoney v. Roberts, 110 S.W. 225 (Ark. 1908).
[85] See Anderson v. Moskovitz, 157 N.E. 601 (Mass. 1927).
[86] On recovery for unforeseen expenses see Horchheimer v. Prewitt, 268 P. 1026 (N.M. 1928). Cf. Blum v. William Goldman Threaters, 69 F. Supp. 468 (S.D.Pa. 1946) modified 164 F.2d 192 (3d Cir. 1947).
[87] Burgess v, Tucker, 77 S.E. 1016 (S.C. 1918). But see Homes, The Path of Law, in Collected Legal Papers, 167, 175 (1920) (arguing recovery only on amount of contract interfered with or breach and no more).
[88] See Restatement (Second) of Torts §776A (1979).
[89] Ibid.

made greater than at the time of contract execution because of intentional improper interference.

Under this second tort theory of action, intentional interference with a contract rendering performance costly or burdensome, SDAR operators cause technological interference with wireless providers rendering the cellular devices inoperable. The wireless providers contacted to provide cellular service to these cellular devices. SDAR repeaters force the wireless providers to either alter their operational frequency or contract with cellular phone makers to construct shielded devices able to operate despite the repeater interference.

Alteration of frequency economically could prove quite costly especially if existing cellular devices could not receive the new signal. If the same devices could work on a different frequency, then the change would cost only the application fees to file with the FCC. Yet, with a spectrum of limited space an alteration of frequency would trigger examination of international agreements and the possibility of reallocating other noncommercial devices relating to research. All this may be impossible.

The second option involves considerable expense to wireless providers. Negotiating new contracts with corporations, impliedly causing them to either breach exclusive dealership agreements with the same companies or accept and pay for useless devices, places the providers at the mercy of cellular device manufactures who may choose to give their business to another. Hence the cost of performance is substantially burdensome.

Again an assessment of whether SDAR operators act with an improper intention, purpose, and means must be established. Following the above analysis it would appear in the instance of violating the FCC special authority order SDAR operators possess an improper intention to interfere with the performance of wireless contracts. So presented an action may be brought against SDAR operators. A brief caveat for discussion is that if SDAR operators fail to perform their agreements, then they would be susceptible for breach of contract claims with all those whom they have promised to provide service and induced construction of receiving devices.[90]

Turning from contractual tort claims to a tort sounding for interference with prospective economic advantage.[91] The expectancies protected by this tort are future contracts obtainable based on a fair estimate of the success and likelihood of consummating a contractual relationship.[92] An example of such expectancy is the opportunity to obtain new customers. The crux of the tort is the principle of bona fide competition for prospective advantage.[93] If the competition is fair there exists a privilege for the action, but if the competition is deemed unfair no privilege exists and tort liability attaches.[94]

The foundational case in this area of tort again comes from England where the court extended the liability for intentional interference with a contract to

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[90] The amount recoverable under this tort is equivalent to intentional interference with contractual relation. The sheer amount of damages even under a simply contract sum would be at least a billion dollars. If punitive damages were assessed a recovery of multi-billions of dollars could result.

[91] Restatement (Second) of Torts §766B (1979).

[92] The plaintiff must prove achievement of contract or economic benefit absent defendant's interference. Optivision v. Syracuse Shopping Center, 472 F. Supp. 665 (D.N.Y. 1979).

[93] See Restatement (Second) of Torts §768 (1979).

potentially advantageous future contractual relations.[95] The tort continues to be grounded in intent, and no case at present has held liable a defendant who intended incidental interference through proper means.[96] Nor does an action sound for acquiring a business rivals prospective customers.[97] This is the privilege of competition, which is so respected by the common law as the design of free enterprise.[98]

Whether competition is privileged depends on the motivation to compete. If the motive is bona fide then the competition is protected.[99] Ulterior malicious desires, such as opening up a rival barbershop to drive the other shop out of business, cause abandonment of the privilege.[100] The measure of damages results from the compilation of business experience and estimation of the likely worth of additional customers obtained had no interference occurred.[101]

The Restatement places the burden of proof upon the plaintiff to establish interference consisting of inducing or otherwise causing a third person not to enter into or continue the prospective relation or preventing the other from acquiring or continuing the prospective relation through improper intentional

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[94] Ibid. See also Jones, Historical Development of the Law of Business Competition, 35 Yale L.J. 905, 36 Yale L.J. 42 (1926); Wyman, Competition and the Law, 15 Harv. L. Rev. 427 (1902).
[95] Temperton v. Russell, 1 Q.B. 715 (1893).
[96] Usually this tort may not be grounded on a negligent act. Woodbridge Manufacturing Co. v. U.S., 235 F.2d 513 (U.S. App. D.C. 1956) (held no remedy for negligent delay in producing a report caused plaintiff loss of contract). But see J'Aire Corp. v. Gregory, 598 P.2d 60 (Cal. 1979) (permitting recovery for negligence through balancing test assessing foreseeability and moral blame). Contra Restatement (Second) of Torts §766C (1979).
[97] Prosser, Law of Torts, 1021.
[98] See Martell v. White, 69 N.E. 1085 (Mass. 1904) (claiming free competition in best interests of society).
[99] See Restatement (Second) of Torts §768 (1979).
[100] Tuttle v Buck, 119 N.W. 946 (Minn. 1909). See also Dunshee v. Standard Oil Co., 132 N.W. 371 (Iowa 1911) (malicious intent to injure business rival vitiates competition privilege).
[101] Rager v. McClosky, 111 N.E.2d 214 (N.Y. 1953)

conduct.[102] Most jurisdictions follow this rule, but a minority place the persuasive and productive burden upon the defendant.[103]

The SDAR providers intentionally interfere with the prospective contractual relations of the wireless operators by using repeaters that completely render the cellular devices inoperable. People, desiring cellular service, will choose another cellular provider having devices that work despite the repeaters. The affected provider suffers the loss of these would be customers. Not only are SDAR operators liable for those who choose another provider, but also for those existing customers who decide not to renew their contract.

The proof of damages may be a hard task. To establish subscribers failed to renew their contract as a result of the interference takes evidence asserting the only reason subscribers did not renew was the interference. An evaluation of reasonable competition from other providers would mitigate the loss. To prove a non-renewing customer's reason for doing so would require a solicitation and receipt from each subscriber as to the reason for leaving the provider. The proof of prospective customers may be easier given an ascertainable amount of new subscribers could be calculated. The projection is subject to dispute on the grounds of accuracy. A battle of the experts ensues over the appropriate amount of loss, and the more persuasive one convinces the jury.

Once improper intentional conduct is found the elasticity of the tort provides the wireless provider with a more then adequate remedy. By wrongful conduct SDAR operators become liable for a tremendous amount of loss. Notice

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[102] Restatement (Second) of Torts §766B (1979).

the difficulty in succeeding under the tort if the FCC rules governing repeaters authorize tolerable interference. In that situation SDAR operators may raise the bona fide defense of honestly and in good faith complying with these rules.

A final point revolves around the role of competition as a basis for this tort. Here SDAR is not competing with cellular service. SDAR provides radio, while wireless providers offer the means to communicate via cellular telephone. If a court could define competition in regards to spectrum allotment, then a grievance with the FCC would lie. The court would be powerless other then to send the litigants to the FCC only to have them return on an appeal from an unfavorable decision to scrutinize the license denial or change of frequency.

An examination of the applicability of the prima facia tort to the SDAR situation concludes the survey of tort causes of action.[104] The constitutive elements of the tort vary in different jurisdictions. There are two leading formulations. The first is an intentional lawful act by the defendant done with the purpose to cause injury resulting in harm to the plaintiff performed without justification.[105] The other is an infliction of intentional harm causing damage to the plaintiff by an act or series of acts which otherwise would be lawful lacking excuse or justification.[106] In both formulations the tort will not lie if another

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[103] See Alyeska Pipeline Service Co. v. Aurora Air Service Inc., 604 P.2d 1090 (Alaska 1979) (maintaining burden on plaintiff to prove interference improper).

[104] On the history of the prima facie tort see generally Brown, The Rise and Threatened Demise of the Prima Facie Tort Principle, 54 Nw. U. L. Rev. 563 (1959).

[105] Porter v. Crawford & Co., 611 S.W. 265 (Mo. App. 1980); Plant v. Woods, 57 N.E. 1011, 1014 (1900) (describing lawful unlawful act distinction)

[106] ATI, Inc. v. Ruder & Finn, Inc., 368 N.E.2d 1230, 1232 (N.Y. App. 1977). See also Langan v. First Trust & Deposit Co., 59 N.E.2d 424 (N.Y. App. 1944); Beardsley v. Kilmer, 140 N.E. 203 (N.Y. App. 1923) (legally recognized justification necessary). See generally Prima Facie Tort, Ann., 16 A.L.R.3d 1191, 1220-1227.

normative tort satisfies the evidence presented.[107] Yet, a litigant may plead the prima facia tort in the alternative to other conventional torts.[108]

The formulation of the tort arose through the opinion of Justice Holmes in Aikens v. Wisconsin[109] where Holmes articulated, "the infliction of temporal damage is a cause of action, which as a matter of substantive law, whatever may be the form of the pleading, requires a justification if the defendant is to escape".[110] Holmes relied on the English precedent of Mogul Steamship Co. v. McGregor, Gow & Co.[111] where Lord Bowen pronounced where one "intentionally [does] that which is calculated in the ordinary course of events to do damage, and which does, in fact, damage another in that other's property or trade, is actionable if done without just cause or excuse".[112] Formulation of the tort is pivotal to the cause of action.[113] Much criticism berates the tort as an attempt to state the entirety of tort law in a simple phrase.[114] Despite arguments over the

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[107] Bandag of Springfield, Inc. v. Bandag, Inc., 662 S.W.2d 546, 552 (Mo. App. 1983) (holding where plaintiff's evidence established normative tort no prima facie recover also).
[108] See Burns Jackson Miller Summit & Spitzer v. Linder, 451 N.E.2d 459 (1983) (announcing double recovery not possible under prima facie and normative tort); Board of Educ. v. Farmingdale Classroom Teachers Assoc., 343 N.E.2d 278 (1975) (same).
[109] 195 U.S. 194
[110] Id. 204.
[111] 23 Q.B.D. 598 (1889) aff'd 1892 A.C. 25 (H.L.).
[112] Id. at 613.
[113] At least one court holds wrongful conduct need not reside strictly within the bounds of prima facie tort. The plaintiff may recover on the misconduct regardless of whether prima facie is proved. Penn-Ohio Steel Corp. v. Allis Chambers Mfg. Co., 184 N.Y.S.2d 58 (1959). See also Morrison v. NBC, 266 N.Y.S.2d 406 (1965) rev'd on other grounds 280 N.Y.S.2d 641 (1967) (allowing prima facie recovery for conduct not clearly within normative torts); Ratcliffe v. Evans, 2 Q.B. 524 (1892) (holding false statement inducing plaintiff's cession of business prima facie tortious).
[114] See Dan Dobbs, Tortious Interference with Contractual Relations, 34 Ark. L. Rev. 335, 345 (1980).

validity of the theory courts and scholars approvingly hold the tort as a legitimate cause of action.[115]

The crucial element of the prima facie tort is the defendant's motivation to injure the plaintiff by his act.[116] Remedy on this theory rests on the fact the Defendant's sole desire was harm to the plaintiff.[117] If conflicting or additional motives exist the action fails.[118] Of equal importance is the act of the defendant be lawful.[119] An unlawful act of the defendant nullifies the prima facie tort.[120]

This tort theory covers the situation where the FCC codifies rules governing terrestrial repeaters and interference continues to result. An exploration of the motivation of SDAR operators must first be undertaken. SDAR operates repeaters in compliance with FCC regulations. Their motivation is first to conduct a service providing satellite radio to their subscribers. Yet, SDAR operators are aware of the interference caused to the wireless providers. Repeaters continue to operate and SDAR providers make no effort to mitigate the technological interference. The motivation for operation of repeaters on a

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[115] Sir Frederick Pollock placed the doctrine as validating all willful harmful deeds are actionable. Pollock, The Law of Torts 14th ed., 17-18. See also Tuttle v. Buck, 119 N.W. 946 (1909); Note, Prima Facia Tort, 11 Cum. L. Rev. 113 (1980); Forkosch, An Analysis of The "Prima Facie Tort" Cause of Action, 42 Corn. L.Q. 465 (1957);Note, The Prima Facie Tort Doctrine, 52 Col. L. Rev. 503 (1952); Holmes, Privilege, Malice and Intent, 8 Harv. L. Rev. 1 (1894).

[116] See Burns Jackson Miller Summit & Spitzer v. Linder, 451 N.E.2d 459 (1983) (asserting proof of disinterested malevolence necessary); Marcella v. Arp Films, Inc. 778 F.2d 112 (2nd Cir. 1985) (explaining presence of other motives, profit, self-interest, business advantage, vacates prima facie claim).

[117] See Benton v. Kennedy-Van Saun Mfg. & Eng. Co., 152 N.Y.S.2d 955 (1956); Glenn v. Advertising Publications, 251 F. Supp. 889, 906 (S.D.N.Y. 1966).

[118] See Korry v. International Tel. & Tel. Corp., 444 F. Supp. 193 (1978) (no prima facie tort where other motive exists).

[119] See Bandag of Springfield, Inc. v. Bandag, Inc., 662 S.W.2d 546, 554 (Mo. App. 1983) (stating prima facie tort first element proving intentional lawful act); Morrison v. NBC, 266 N.Y.S.2d 406 (1965) rev'd on other grounds 280 N.Y.S.2d 641 (1967).

[120] See Opera on Tour, Inc. v. Weber 34 N.E.2d 349 (1941); See generally Skinner & Co. v. Shew & Co., 1 Ch. 413 (1893).

corporate level is to provide service, and without the repeaters a considerable amount of customers would not obtain service. SDAR operators, therefore, use their repeaters implicitly to injure the wireless providers. Without the repeaters wireless providers could conduct business as usual, but SDAR operators would not be able to broadcast their service to large urban centers without repeaters. Therefore SDAR utilize repeaters to intentionally interfere with wireless device operation with the motivation to harm the wireless providers by rendering their devices inoperable.

Motivation, intent, and harm established a discussion of justification follows.[121] Justification or excuse posits an absolute defense to a prima facie tort action.[122] SDAR operators lawful action is not either a justification or excuse. Action for the public interest is a justification for the intentional harmful act. The amorphous public interest standard is the same paradigm used in determining the grant of an FCC license. If the FCC granted a license for the operation of SDAR, then its continued functioning must be in compliance with the public interest. Yet, the harm caused to wireless providers, whom also have an FCC license declaring their service in the public interest, is substantial. The benefits

[121] New York requires a showing of special damages. See Nichols v. Item Publishers 132 N.E.2d 860 (N.Y. App. 1956) (requiring presentation of detailed specific catalog of damages); Brandt v. Winchell, 141 N.Y.S.2d 674 (1955) (acknowledging $200 per week loss wages and revocation of private investigator license sufficient special damages). But see Advance Music Corp. v. American Tobacco Co., 70 N.E.2d 401 (N.Y. App. 1946) (apparently holding no special damage required). Cf. Dale System v. Time, Inc., 116 F. Supp. 527 (D. Conn. 1953) (reading Advance Music Corp. as maintaining special damage, but relaxing strict common-law pleading).

[122] See Lucci v. Engel, 73 N.Y.S.2d 78 (1947) (otherwise libelous statements justified because spoken in adoption proceeding); Brandt v. Winchell, 141 N.Y.S.2d 674 (1955) (addressing impact of injunction as insulating defendant from causing special damages); Bono Sawdust Supply Co. v. Hahn & Gloin, 159 N.Y.S.2d 725 (1957) (issuance of subpoena executing judgment justifies delivery of instrument and levy of funds).

of SDAR are outweighed by the economics involved in the injury to the wireless providers in urban areas.

The concept of justification relies heavily upon issues of policy, which one prominent jurist believed within the sole discretion of the legislature.[123] In ascertaining whether an action constitutes a privilege or is justified a weighing of legal and policy considerations results. Here SDAR operators may justify their actions on the basis of pursuing a legitimate business interest for economic gain. Lord Bowen found the conspiracy of merchants to offer unprofitable rates in addition to rebating shippers for the purpose of preventing new competition justified.[124] The determination of justification resides in a court with proper jurisdiction weighing the societal benefits of SDAR with those of wireless providers. Taking into account the specific nature of action along with the surrounding factual considerations a court could reason SDAR actions are not justified.

SECTION V: THE POSSIBILITY OF FCC REMEDIES

No action against the FCC for the previously discussed torts will lie. The Federal Tort Claims Act prohibits a tort action of interference with contractual relations against the United States.[125] The same act retains immunity for all governmental conduct involving discretionary functions or duties.[126] This discretionary immunity protects the federal government from suit brought for the

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[123] See Holmes, Privilege, Malice and Intent, 8 Harv. L. Rev. 1, 3 (1894).

[124] Mogul Steamship Co., Ltd. v. McGregor, 23 Q.B.D. 598 (1889) aff'd 1892 A.C. 25 (H.L.)..

[125] 28 U.S.C.A. §2680 (h); See also Boger, Gitenstein, & Verkuil, The Federal Tort Claims Act Intentional Torts Amendment: An Interpretive Analysis, 54 N.C.L. Rev. 497 (1976).

[126] 28 U.S.C.A. §2680 (a).

implementation or failure to implement administrative regulations.[127] Neither may a suit hold liable the government for execution of a statute.[128] The FCC embodies the administration of the 1934 Communications Act and subsequent statutory enactments.

Mentioning the enabling statutes governing the FCC, a description ensues of the penalties enforceable against a noncomplying licensee. The 1934 Communications Act provides for a general penalty and a penalty for violation of FCC regulation. Section 501 provides for a $10,000 fine and no more than two years imprisonment for knowing violation or failure to conform to any provision of the Act.[129] The provision applies to those who unlawfully produce unlicensed radio broadcasts. SDAR operators possess a valid FCC license, but whether production of an SDAR signal in direct violation of a special temporary authority order constitutes a violation of the Act has yet to be adjudicated.

Section 502 provides for a $500 fine for every day the liscencee violates any FCC or international regulation.[130] This statutory provision envisions the exact situation where SDAR operators violate the FCC special temporary

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[127] See Emch v. U.S., 630 F.2d 523 (7th Cir. 1980) cert. denied 450 U.S. 966 (1981) (holding no liability for economic loss from governmental failure to regulate banking practices); Loge v. U.S., 662 F.2d. 1268 (7th Cir. 1980) cert. denied 456 U.S. 966 (1981) (polio vaccination administration government failure to regulate). But see AT&T v. Central Office Telephone, Inc., 520 U.S. 214 (1988) (Describing filed-rate doctrine regarding telephone long distance agreements barring state law tortious interference with contract).

[128] 28 U.S.C.A. 22680 (a). See also Dalehite v. U.S., 346 U.S. 15 (1953).

[129] 47 U.S.C. § 501. See Re Songerling Broadcasting Corp., 69 F.C.C.2d. 289 (1977) (describing this statutory provision as only remedy against unlicensed broadcaster); AT&T v. U.S., 299 U.S. 232 (1936) (prosecution of corporation or officers under statute must establish knowing willful violation)

[130] 47 U.S.C. §502.

authority order.[131] Yet, the section would yield no remedy after rules enacted governing the use of SDAR terrestrial repeaters. If the rules tolerate a specific amount of SDAR repeater interference no action lies unless the interference exceeds the rules ascertained amount.

Another provision of the 1934 Communications Act provides for a forfeiture procedure in response to repeated willful and knowing violations of a license.[132] For each violation a penalty of $25,000 is assessed with additional $25,000 penalties per day of continuing violation of a license.[133] The penalty for a single violation can not exceed a total of $250,000.[134] The Commission must consider a number of factors in assessing the forfeiture penalty.[135] Levy of the penalty does not occur when a licensee committed the offence one year prior to issuance of the forfeiture notice or prior to the commencement term of the current license.[136] Failure to operate in the public interest as required by the terms of a license will not invoke a forfeiture penalty.[137]

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[131] See Parkhurst v. Kling, 249 F. Supp. 315 (E.D. P.A. 1965) (provision applies only to individuals FCC has jurisdiction over); U.S. v. McIntire, 365 F. Supp. 618 (D. N.J. 1973) (injunctive relief available to FCC for enforcement).

[132] 47 U.S.C. §503 (b)(1)(A) and (B). See also New Jersey Coalition for Fair Broadcasting v. FCC, 580 F.2d. 617 (1978) (forfeiture penalty in addition to other sanctions applicable under Act); Re Crowell-Collier Broadcasting Corp., 44 F.C.C. 2444 (1961) (forfeiture enforcement necessary to effect license compliance).

[133] 47 U.S.C. §503 (b)(2)(A).

[134] Ibid.

[135] The factors are "the nature, circumstances, extent, and gravity of the violation and, with respect to the violator, the degree of culpability, any history of prior offenses, ability to pay, and such other matters as justice may require. 47 U.S.C. §503 (b)(2)(D).

[136] 47 U.S.C. §503(b)(6)(A)(i,ii) (where license obtained under §303 of Act).

[137] Re Star Stations of Indiana, Inc., et al. 28 F.C.C.2d. 691 (1971).

A forfeiture proceeding would penalize SDAR repeaters interfering operation.[138] The cession of repeater use will result at the cost of SDAR service completely through the loss of license. Enforcement of the provision prevents substantial economic injury to wireless providers through injunction authorized by section 502 of the Act in addition to the forfeiture penalty. Enacted rules limit the ability to enforce the forfeiture penalty because of the diminished chance of violation, and the sections mentioned grant no remedy for violation of public interest by electrical interference.[139]

An exposition of the United States Supreme Court decisions regarding technological interference in radio broadcasting explains the judicial perspective on the validity of such a claim. In 1933 the Court confronted a situation where a station in one state broadcasted on the same frequency as another station operating in a different state.[140] The law of the case was that of the 1927 Radio Act and the authority of the FRC. The Court found the interfering station broadcasted in a state with many radio stations broadcasting similar programming, while the station being interfered with constituted the only broadcast with programming servicing a population of diverse minority

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[138] See 47 U.S.C. §504 et seq. (forfeiture action commences in federal district court and penalty paid to treasury); Pleasant Broadcasting Co. v FCC, 564 F2d 496 (US App DC 1977) (holding appellate court lacks jurisdiction to initially review FCC forfeiture orders); Crockett Mortg. Co. v Government Nat'l Mortg. Assoc., 418 F Supp 1081 (E.D. P.A. 1976) (asserting broad district court review powers of facts and forfeiture amount). See also Re Fleet Broadcasting, Inc., FCC DA99-1702 (adopted 8/25/99) (forfeiture reconsideration only where material error, factual omission, or unknown facts in original order).

[139] See infra at 25.

[140] FRC v. Nelson Bros. Bond & Mortg. Co., 289 U.S. 266 (1933).

individuals.[141] The Supreme Court upheld the Commission's deletion of the interfering station, since the result of the deletion was equitable.[142]

In the same decision the Court declared the physical scarcity of radio spectrum necessitated regulation by the FRC. Radio technology prevented every individual from airing their views through the medium, but the Commission regulates for the purpose of permitting the greatest number of stations to operate within the spectrum without stifling interference.[143]

In FCC v. Sanders Bros. Radio Station[144] eight years later the Court held resulting economic injury to a rival station is not, apart from considerations of public convenience, interest, or necessity, an element that the FCC must weigh in granting an application for a broadcasting license.[145] The aggravated station can through 402 (d) of the 1934 Communications Act appeal the decision to a Federal district court. Here the Court limits the liability of the FCC in relation to granting licenses, which may economically harm a rival station.[146]

FCC v. NBC[147] in 1943 involved a Massachusetts station's application to modify their license to operate at an increased power on the same frequency as another station in Colorado. The modification would cause electrical interference.[148] The FCC granted the Massachusetts modification finding the

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[141] Ibid.
[142] Ibid.
[143] Ibid. at 282. *See also* National Broadcasting Co. v. U.S., 319 U.S. 190, 210-218 (1943)
[144] 309 U.S. 470 (1940).
[145] Id. at 473.
[146] Ibid. The Court also stated the licensee possesses no right of ownership whatever in the license.
[147] 319 U.S. 239 (1943)
[148] Id. at 240

interference caused to the Colorado station marginal.[149] In response the Colorado station sought to appeal the FCC's decision because it was not allowed a hearing on the impact of the modification on its operations. The Court agreed with the Colorado station and affirmed the lower court's decision to void the grant of modification contingent on a hearing upon the affect of the grant on the station.[150] Also, the basis of the Colorado station's right to a hearing could have been potential economic injury. The Court found a right to hearing based on the assertion the modification was not in the public interest.[151]

In 1945 the Supreme Court acknowledged that the granting of two licenses on the same frequency at the same location would cause "intolerable interference".[152] Noting the authority of the FCC to allow an applicant station a permit to alter the physical construction of the station to accommodate broadcast on a different frequency, the Court concluded the FCC's determination of the futility in making such an alteration sustainable.[153] Overall the case hinged on the grant of a license to a competing applicant without a hearing allotted to the losing applicant.[154]

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[149] Ibid.
[150] Id. at 247.
[151] Ibid. In the lower court decision the FCC asserted a right of appeal existed only when financial or economic injury, whether or not resulting from electrical interference. NBC v. FCC, 132 F.2d. 545 (U.S. App. D.C. 1942)(lower court decision); WOKO, Inc. v. FCC, 109 F.2d. 545, 548 (U.S. App. D.C. 1940)(who may appeal from FCC decision what showings necessary); Yankee Network, Inc. v. FCC, 107 F.2d. 212 (1939) (necessity for showing of substantial injury to appeal FCC order); Red River Broadcasting, Inc. v. FCC, 98 F.2d. 262 (1938) (affected individuals right to appeal FCC order under 47 U.S.C. §303 (f)). See also 47 U.S.C 402 (d)(2) (right to appeal FCC decision).
[152] Ashbacker Radio Corp. v. FCC, 326 U.S. 327 (1945).
[153] Id. at 150-151. See also Matheson Radio Co., 8 F. C. C. 427; The Evening News Association, 8 F. C. C. 552; (Both holding possible workable adjustments so both applications granted)
[154] Id. at 113.

The Court pronounced a licensee does not have a constitutional right to hold or "to monopolize a radio frequency to the exclusion of his fellow citizens".[155] Also, the Court asserted "there is nothing in the First Amendment which prevents the Government from requiring a licensee to share his frequency with others and to conduct himself as a proxy or fiduciary with obligations to present those views and voices which are representative of his community and which would otherwise, by necessity, be barred from the airwaves".[156]

Several years later the Court continued to believe in the need for regulation of the radio spectrum adding the caveat that "nothing in the First Amendment [prevented] the Commission from allocating licenses so as to promote the 'public interest' in diversification of the mass communications media".[157] The Court reaffirmed the allocation of frequencies by the FCC benefits the public interest, which has the "indirect consequence of rewarding -- and avoiding losses to -- licensees who have invested the money and effort necessary to produce quality performance".[158] Importantly the Court confirmed considerations of private losses are relevant to Commission action "only when shown to have an adverse effect on the provision of broadcasting service to the public".[159]

The Court reasserted the necessity of a comparative hearing in deciding between two applicants for a license whose operation would cause technological

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[155] Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 389 (1969).
[156] Ibid.
[157] FCC v. National Citizens Committee for Broadcasting, 436 U.S. 775, 720 (1978).
[158] Id. at 721.
[159] Ibid. See also citing FCC v. Sanders Bros. Radio Station, 309 U.S. 470, 474-476 (1940); Carroll Broadcasting v. FCC, 258 F.2d 440 (U. S. App. D. C. 1958) (Private losses resulting in discouragement of investment in quality service adversely affect public).

interference.[160] The Court in this case upheld the FCC policy of favorable treatment of minority applicants for broadcast licenses.

As the mentioned cases suggest the FCC exists to control the amount of interference existing within the radio spectrum. At the time these cases where decided radio broadcasters caused interference to each other. Presently SDAR broadcasters will interfere with other types of technology. Since the affected technology is also subject to FCC regulation perhaps statutory penalties would satisfy the situation. However, with the great sums of capital expended in running these services the loss of subscribership could inversely impact the suffering operations. The situation calls for a private cause of action to recover damages incurred by the interference.

In looking to Supreme Court opinions the trend is toward upholding FCC regulations. If the Commission performs the proper procedural exercises judicial scrutiny will look favorably upon these actions. Supportive of the theory that a FCC license is a public trust, the Court mitigates the scarcity of stations because of this doctrine and the technological impossibility of allowing everyone to broadcast. Having found no constitutional right to use radio facilities, the Court may now need to face the question whether licensees have a private right of action against each other for technological interference. The preceding decisions establish that where the economic impacts of the grant of a license adversely affect the public the private losses of the station must be considered. SDAR operators already have their licensees, millions of dollars are invested in these licensees, and millions more in wireless service providers—it is inconceivable no

[160] Metro Broad, Inc. v. FCC, 497 U.S. 547 (1990).

remedy exists in the situation where one licensee can no longer operate their service because of the technological interference of another.

SECTION VII: CONCLUSION

Looking at the problem from a global perspective the FCC faces a situation similar to the early days of radio where the elimination of interference is paramount to serving the public interest. How the Commission will act is unforeseeable, but the FCC must be apprised of the possible private consequences of its actions upon SDAR licensees. Diversity in mass media benefits the entire populace in providing them with programming and viewpoints representative of their desires, yet the price paid for this diversity in the case of SDAR repeaters is tremendous.